

IN THE CLAIMS

**COMPLETE LISTING OF ALL CLAIMS, WITH MARKINGS AND STATUS IDENTIFIERS**  
(Currently amended claims showing deletions by ~~strike through~~ and additions by underlining)

This listing of claims will replace all prior versions and listings of the claims in the application.

Listing of Claims:

1-45. Cancelled.

46. (currently amended) A preservation mixture comprising:

a virus, bacteria or other cell which is sensitive to loss of viability during drying and storage at ambient or higher temperatures;

a methylated monosaccharide selected from the group consisting of methyl  $\alpha$ -glucopyranoside and methyl  $\beta$ -glucopyranoside; and

a disaccharide selected from the group consisting of sucrose and trehalose, or alternatively, an oligosaccharide, wherein the preservation mixture has a total solute mass, and wherein the methylated monosaccharide comprises between 5% and 80% wt% of the total solute mass, and the disaccharide, or alternatively an oligosaccharide, comprises between 5% and 80% wt% of the total solute mass.

47. Cancelled.

48. (previously presented) The preservation mixture of Claim 46, wherein the methylated monosaccharide comprises between 20% and 60% wt% of the total solute mass.

49. Cancelled.

50. (currently amended) The preservation mixture of ~~Claim 49~~Claim 46, wherein the disaccharide comprises between 20% and 60% wt% of the total solute mass.

51. Cancelled.

52. (currently amended) The preservation mixture of ~~Claim 51~~Claim 46, wherein the oligosaccharide comprises between 20% and 60% wt% of the total solute mass.

53. (currently amended) A method of preserving a virus, bacteria or other cell which is sensitive to loss of viability during drying and storage at ambient or higher temperatures, the method comprising:

mixing the virus, bacteria or other cell with a protectant comprising a methylated monosaccharide selected from the group consisting of methyl ( $\alpha$  or  $\beta$ )-glucose and at least one additional compound selected from the group consisting of disaccharides and oligosaccharides to form a preservation mixture, wherein the preservation mixture has a total solute mass, and wherein the methylated monosaccharide comprises between 5% and 80% wt% of the total solute mass, and the disaccharide, or alternatively an oligosaccharide, comprises between 5% and 80% wt% of the total solute mass; and

drying the preservation mixture by foam formation comprising the formation of a mechanically stable porous foam structure by boiling said preservation mixture under a vacuum.

54. (previously presented) The method of Claim 53, wherein said virus, bacteria or other cell further comprises a vaccine or vector.

55. Cancelled.

56. (currently amended) The method of ~~Claim 53~~Claim 55, wherein the methylated monosaccharide comprises between 20% and 60% wt% of the total solute mass.

57. (previously presented) The method of Claim 53, wherein the disaccharide is sucrose or trehalose.

58. Cancelled.

59. (currently amended) The method of ~~Claim 58~~Claim 53, wherein the disaccharide comprises between 20% and 60% wt% ~~if of~~ the total solute mass.

60. Cancelled.

61. (currently amended) The method of ~~Claim 60~~Claim 53, wherein the oligosaccharide comprises between 20% and 60% wt% of the total solute mass.
62. (previously presented) The method of Claim 53, wherein the at least one additional compound is sucrose, and wherein the ratio of sucrose to ( $\alpha$  or  $\beta$ )-d-glucose is between 4:1 to 1:2.
63. (previously presented) The method of Claim 53, wherein mixing further comprises at least two steps including loading the virus, bacteria or other cell with the methylated monosaccharide and then adding the at least one additional compound to form the preservation mixture.
64. (previously presented) The method of Claim 63 wherein loading is achieved by equilibration of the virus, bacteria or other cell in a solution containing the methylated monosaccharide.
65. (previously presented) The method of Claim 53, further comprising a step of secondary drying.
66. (previously presented) The method of Claim 65, wherein said secondary drying is conducted at a temperature in a range of 0° to 100°C.
67. (previously presented) The method Claim 66, wherein said secondary drying is continued until the glass transition temperature is raised above a selected storage temperature within a range of 0° to 70°C.
68. (previously presented) The method of Claim 53, further comprising the step of milling said stable foam to form a powder.
69. (previously presented) The method of Claim 68, further comprising the step of secondary drying said powder.
- 70-71. Cancelled.